

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Cancel claims 1-24. Add the following new claims:

25. A whole body stereotactic localization and immobilization system comprising:
a patient elongated support and frame including a fiducial pattern having at least two fiducials at least one of which has a trigonometric waveform; and
means for temporarily immobilizing the patient's body in relation to the fiducials at least during imaging.

26. The whole body stereotactic localization and immobilization system of Claim 25 wherein said trigonometric waveform fiducial is a sine wave.

27. The whole body stereotactic localization and immobilization system of Claim 25 wherein said trigonometric waveform fiducial is a cosine wave.

28. The whole body stereotactic localization and immobilization system of Claim 25 wherein said fiducial pattern includes a continuous array of coupled fiducials.

29. The whole body stereotactic localization and immobilization system of Claim 25 wherein at least two of said fiducials have trigonometric waveforms, one of said waveforms being sinusoidal and the other cosinusoidal.

30. The whole body stereotactic localization and immobilization system of Claim 29 wherein the position of the sine and cosine fiducials are mathematically linked.

31. The whole body stereotactic localization and immobilization system of Claim 30 wherein the position of the sine and cosine fiducials are mathematically linked by a $\pi/2$ relationship.

32. The whole body stereotactic localization and immobilization system of Claim 30 wherein one of said at least two fiducials is a straight line parallel to the longitudinal axis of the support and not intersecting said trigonometric waveform fiducials.

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33. The whole body stereotactic localization and immobilization system of Claim 32 wherein another of said at least two fiducials is a straight line non-parallel to said first straight line fiducial.

34. The whole body stereotactic localization and immobilization system of Claim 33 wherein still another of said at least two fiducials is a straight line.

35. The whole body stereotactic localization and immobilization system of Claim 34 wherein said one and another of said straight line fiducials are parallel and positioned relative to said patient elongated support so as to lie adjacent and generally parallel to the left and right sides of the patient.

36. The whole body stereotactic localization and immobilization system of Claim 35 wherein said non-parallel fiducial does not intersect said one and another parallel straight line fiducials within the confines of the patient elongated support.

37. The whole body stereotactic localization and immobilization system of Claim 36 wherein said non-parallel fiducial does not intersect the two trigonometric waveform fiducials within the confines of the patient elongated support.

38. The whole body stereotactic localization and immobilization system of Claim 37 wherein yet another of said at least two fiducials is a straight line adjacent one or the other of said left and right straight line fiducial so as to effect an error protection.

39. The whole body stereotactic localization and immobilization system of Claim 38 wherein said trigonometric waveform fiducials having varying amplitude.

40. The whole body stereotactic localization and immobilization system of Claim 29 wherein said fiducial pattern includes a continuous array of coupled fiducials.

41. The whole body stereotactic localization and immobilization system of Claim 25 wherein said frame need not be orthogonally aligned within a scanning device in order to permit precise stereotactic localization in images taken by the scanning device.

42. The whole body stereotactic localization and immobilization system of Claim 25 additionally comprising quality assurance markers placed at predetermined positions along an axis of said frame.

43. The whole body stereotactic localization and immobilization system of Claim 25 wherein said frame includes an arc carriage.

44. The whole body stereotactic localization and immobilization system of Claim 43 wherein said arc carriage includes means for holding surgical probes, electrodes, or beam localization and delivery systems.

45. A whole body stereotactic localization and immobilization system comprising:
a patient elongated support and frame including an imaging resolver having at least two fiducials one of which is a straight line that is not parallel to the axis of the frame and another of which has a trigonometric wave form; and
means for temporarily immobilizing the patient's body in relation to the imaging resolver.

46. The whole body stereotactic localization and immobilization system of Claim 45 additionally including means for mathematically calculating stereotactic coordinates.

47. The whole body stereotactic localization and immobilization system of Claim 45 wherein said calculation means includes means for optimizing the calculation of the stereotactic coordinates.

48. The whole body stereotactic localization and immobilization system of Claim 45 wherein the axis of the fiducials having a trigonometric wave form is parallel to the fiducial having a straight line form.

49. A method for stereotactic localization of a portion of a human body comprising:
placing the patient's human body including a lesion on a support and frame;
temporarily immobilizing the patient's body during imaging by a scanning device such as
computed tomography or magnetic resonance imaging;
providing a fiducial pattern on said frame for creating markers on the patient image to create a
reference system;
configuring the fiducial pattern so as to include at least one fiducial having a straight line form that
is non-parallel to the axis of the frames and a second fiducial having a trigonometric waveform;
providing a computer system for displaying said images, including said markers, and a software
program for utilizing said fiducial markers for accurate stereotactic positioning information;
creating a radiation therapy plan for treatment of a lesion the position of which is determined
based on the images and computer program;
immobilizing the patient's body in a radiation therapy delivery device; and
delivering radiation therapy to the applicable portion of the patient's body so as to treat the lesion.

all
